Factors in the Choice of BA and TARA Conditionals in Modern Japanese*

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1. Introduction

Modern Japanese has a wide array of clause linkage markers (CLMs), such as "BA," "TARA," "NARA," and "TO" for expressing conditional meanings. These CLMs express apparently identical functions as we see in the case of BA and TARA constructions in the example (1a). The protases of the former case both express an unrealized event (i.e., tomorrow will come) and the apodosis the occurrence of an event that the result will unveil. However, sentences with identical CLMs as in (1a) behave distinctly as example (1b) instantiates.

(1)	a.	ashita-ni	nare-ba/tara	kekka-ga	wakaru.
		tomorrow-DAT	become-BA/TARA	result-NOM	be known
		'When the day changes, the result will unveil.'			
	b.	Gakkou-ni	ike-*ba/tara	sensei-ni	aisatsushinasai-yo.
		school-DAT	go-BA/TARA	teacher-DAT	greet.IMP-FP
		'When you arrive at the school, greet to your teachers.'			

The speaker in example (1b) orders the hearer to greet their teacher on the condition that the hearer arrives at school. In this case, the use of BA is unacceptable whereas the use of TARA is grammatical. This is due to a restriction that BA conditionals with an imperative predicate form in its apodosis cannot have a non-stative predicate in its protasis (Maeda 2009; National Institute for Japanese Language and Linguistics 1964; Suzuki 1978). Many studies focused on the constraints that each conditional possesses and have shed light on distinctive aspects of each conditional. This paper will attempt to uncover what factors are at play in the choice of the BA and TARA conditionals through a corpus study.

2. Prototypical and peripheral BA and TARA conditionals

Previous studies have described BA conditionals as conditionals which typically express a general

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causal relationship between the state of affairs expressed in their protasis and apodosis as we see in (2a).

(2) a. Chiri-mo tsumore-ba yama-to naru.
dust-too pile up-BA mountain-DAT become
'Whenever dust piles up, it becomes a mountain.'

b. Shi-ga kushami-o sure-ba shimin-ga kaze-o hiku-monoda
city-NOM sneeze-ACC do-BA citizen-NOM cold-ACC catch-CCM
'When you arrive at the school, greet to your teachers.' (Masuoka 1993b)

As the English equivalent shows, the causal relationship expressed in (2a) and (2b) is a generic one. Masuoka (1993b) describes it as a universal relation and argues that it is the central usage of BA conditionals. Masuoka argues that this type of conditional sentence usually occurs with an expression which shows that the speaker construes the event expressed in the protasis and apodosis as a natural causal event. For example, the predicate in the apodosis (2b) is marked with "monoda," which expresses the speaker's construal that the event "citizen's catching cold" (i.e., a negative consequence for the citizens) under the circumstance is likely in the situation described in the protasis, namely, a negative experience for the city. BA conditionals are often used to express proverbs like in example (2a) where a proverb is used to communicate a principle that applies to any spatiotemporal setting. As we can see from these examples, they are characteristic in that the apodosis of BA conditionals usually expresses the resulting state of affairs of an event or condition expressed in its protasis. Due to this semantic feature, Masuoka argues, epistemic modality is the default semantic expression in the apodosis of BA conditionals.

Tara conditionals are often described as a conditional that has specific space and time in mind. Example (1b) above is such a case where a specific event is described in the protasis and a speech act to be taken under the situation expressed in the protasis.

We can posit that these distinct uses of BA and TARA are instantiations of distinct conceptual categories. Masuoka (1993a) argues that the proposition of a sentence is broadly composed of two levels: the labeling level and the phenomenon level. He explains that these levels are distinct in how they express the state of affairs realized

in a specific time and space: BA conditionals prototypically express the type of state of affairs, which does not state whether the state of affairs is expressed in specific spatiotemporal settings. On the contrary, the latter level is specific regarding its space and time. Because TARA conditionals are often specific with respect to these features, Masuoka argues that a TARA conditional is an instantiation of the phenomenon level. In other words, BA conditional is an instance of individual-level predication and TARA conditional is an instance of stage-level predication (Krifka et al. 1995). If we assume the characterization of each conditional above, the following examples are expected to be peripheral instances of each.

(3) a. Muzukashikere-ba itsudemo soudanshitekudasai.
difficult-BA pile up-BA whenever consult.IMP
'If it is difficult, talk to me anytime.'
b. Juyou-ga nobi-tara bukka-wa agaru.
demand-NOM extend-TARA price-TOP rise
'When you arrive at the school, greet to your teachers.' (Masuoka 1993a)

Example (3a) is assumed to be a peripheral case of BA conditional because it expresses a speech act of request in its apodosis, while example (3b) is a peripheral case of TARA conditional in expressing general causal relationship between the state of affairs expressed in its protasis and apodosis.

Previous studies of BA and TARA conditionals found that they exhibit formal and semantic distinctions. In other words, they are considered for composing different constructions with distinct prototypical and peripheral aspects. In the following discussion, we would review this assumption and investigate their formal and semantic features in detail.

3. Data and analysis

3.1. Data

The data used for BA and TARA conditionals were extracted from the short unit words on The Balanced Corpus of Contemporary Written Japanese (BCCWJ) (National Institute for Japanese Language and Linguistics 2020). The data were retrieved with the following setting:

	BA conditional	TARA conditional
Infinitive Form and Surface Form	ba	tara
Part of Speech	particle (*joshi*)	auxiliary (*jodoushi*)
Inflectional Pattern	-	hypothetical form (*kateikei*)

Table 1 Search settings of BA and TARA conditionals

After manually removing the cases containing *'tara'* for narratives, 211 cases of TARA conditionals and 199 cases of BA conditionals were obtained.

3.2. Conditional Inference Tree

In this study, we made use of the conditional inference tree method (Breiman 2001) to identify sets of variables that significantly affect the choice of other variables in the data set. Tagliamonte and Baayen (2012) uses the method to identiy variables for the choice of '*was/were*' in there-construction in York English. In this study, we will identify the variables that affect the choice of BA and TARA conditionals.

3.3. Variables

In the course of the study, we chose the variables shown in the table below as potential explanatory variables for the choice of BA and TARA conditionals. These variables are related to the type of subject, predicate, part of speech, clause type, polarity, identity of the subjects in the protasis and apodosis, and modality and mood type in the apodosis. Each attested case in the data set was annotated with respect to the variables shown in the table below.

Of these variables, we can infer that the mood type expressed in the main clause is significant predictors of the choice of conditionals. This is due to the fact that a constraint is observed with respect to BA conditionals as we saw above. It, therefore, is expected that those conditionals with imperative mood prefer TARA conditionals as we see in (1b). We can also expect that BA conditionals prefer declaratives considering previous studies that describe it as the one which prototypically expresses the resulting event or situation of the state of affairs in the subordinate clause.

abbreviation	variable	levels
sc/mc SBJ[1]	subject	animate, inanimate, speaker, hearer, situation, time, none
sc/mc PRD	predicate	action, change, stative, influence, reference, cognition, discourse, nominalizer, perception, entity, none
sc/mc POS	part of speech	adjective, noun, verb, adverb
sc/mc CLS	clause type	causal, passive, giving, receiving, unmarked
sc/mc PLR	polarity	affirmative, negative
mc SS	same subject	SS, DS
sc/mc MOD	modality	circumstantial, deontic, epistemic, evidential, existential, participant-internal, preferential, teleological, none
mc MOOD	mood	declarative, imperative, interrogative

Table 2 Potential variables of the choice of BA and TARA conditionals

Each modal category was annotated base on the classification in Narrog (2012: 8-12):

(4) a. circumstantial modality: a certain situation
b. deontic modality: a social rule
c. epistemic modality: a person's knowledge about the world
d. evidential modality: an evidence of information
e. existential modality: the occurrence of an event
f. participant-internal modality: a person's characteristics (e.g. ability)
g. preferential modality: a person's preference
h. teleological modality: a person's goal

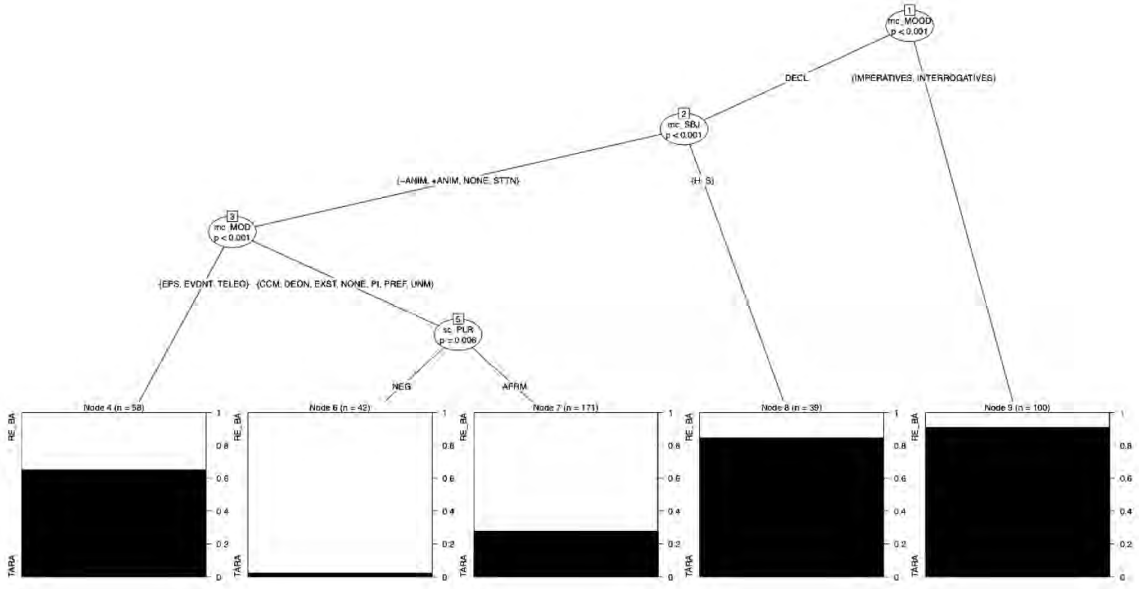
The data set was annotated with the variable we have seen and was submitted to the conditional inference analysis. The following section will show the result of the random forest analysis and conditional inference tree analysis with the input variables listed in Table 2.

4. Result

The result of the the conditional inference tree analysis (C-index = 0.84) shows that four variables are working to distinguish the choice of BA and TARA conditionals: mood type (mc_MOOD), subject of the main clause (mc_SBJ), modality of the main clause (mc_MOD), polarity of the subordinate clause (sc_PLR). Figure 4 is the output of the conditional inference tree and it shows the factor with

[1] 'Sc/mc' in the table stands for the subordinate and main clause respectively

which each conditional is significantly associated with.



The figure shows that a main clause that contains imperatives and interrogatives predicts a higher probability of TARA conditionals as we see in Node 9. It is likely to predict the choice of TARA conditional solely with these mood type. When the mood type is expressed with declaratives, the choice of the conditional depends on other factors. When the main clause contains declaratives and the subject of the main clause is a speaker or hearer, the speaker is more likely to choose TARA conditionals as we see in Node 8. When the other subject types occur in the main clause and the modality type is epistemic, evidential, or teleological, TARA conditional is preferred as we see in Node 4. The use of the other modality types leads to the choice of BA conditionals as we see in Node 6 and 7. The figure also shows the existence of a significant distinction with respect to the choice of conditionals in terms of the polarity of the subordinate clause; while negative subordinate clause mostly leads to the choice of BA conditionals (Node 6), affirmative one increases the probability of the choice of TARA conditionals (Node 7).

5. Discussion

The results support the previous characterization of TARA and BA conditionals. The fact that TARA conditionals are strongly associated with imperative and interrogative moods, the conditional is strongly associated with functioning to express a speech act. It shows that TARA conditionals are related to spatiotemporal settings. It also indirectly supports the view that BA conditionals are more likely to express a general causal relationship.

The cases with declarative moodalso support the view that TARA conditionals express a stage- level conditional relationship. The branching in terms of the subject of the main clause subject (speaker and hearer) on the one hand, and the other subject types (animate, inanimate, situation, none) on the other hand, suggests that there exists a certain conceptual distinction based on the subject type of the main clause. The fact that TARA conditionals are preferred when the hearer or speaker is the subject of the main clause supports the view that TARA conditionals are preferred when the utterance involves an immediate usage event.

(6)	Sukina	hito-ga	deki-tara	omae-ni-mo	wakaru-yo.
	favorite	person-NOM	be made-TARA	2SG-DAT-too	understand-FP

'If you fall in love with someone, you will understand it.'

The hearer is the subject of the apodosis in example (6) and this type of conditional involves a specific person in its conditional relation. In this sense, conditionals with a speaker or hearer as the subject of the apodosis have specific state of affairs in mind and go well with the description of TARA conditionals as stage-level predicative conditionals.

Conditionals with the declarative mood, with a modality type other than epistemic, evidential and teleological contain cases of BA conditionals. When the polarity of the subordinate clause is affirmative, many of them (n = 130) contain no modality marker (i.e., unmarked):

(7)	Karada-ga	suijakusure-ba	seishin-mo	suijakusuru.
	body-NOM	weaken-BA	mind-too	weaken

'If one's body weakens, their mind will weaken, too.'

Such unmarkedness in terms of modality suggests no indeterminacy in the proposition expressed in the sentence. It, therefore, functions to set the proposition as a matter of fact in the speaker's world and leads to generic conditional meaning. In this case, the speaker is more likely to choose BA conditionals as in (7). The common view that BA conditionals express generic conditional meaning is supported by such examples. When the subordinate clause in this type of conditional expresses negative polarity, the frequency of BA conditionals is significantly higher than that of cases with affirmative polarity.

(8) Mou ichido kangae-nakere-ba naranai.
again think-NEG-BA become-NEG
'We have to think about it again.'
(lit. 'If we don't think about it again, it will not do any good')

In many of cases, the apodosis does not contain specific state of affairs as we see in (8) and it expresses a necessity observed in teleological or deontic modal meanings[2] (cf. Narrog 2012: 233-239) for the state of affairs expressed in its protasis. Because deontic and teleological modal meanings express the necessity of the realization of the state of affairs in its scope, we can see semantic relation with generic conditionals, which expresses how two events should work in the world. We can posit that the significant distinction of the choice of conditionals in terms of its polarity is due to the unique usage of BA conditionals. It is the case that BA conditionals are preferred when the subordinate clause is an affirmative one as in negative one. However, a higher probability of choosing a BA conditional for the latter case led to the distinction as we see in Node 6 and 7.

The speaker also prefers TARA conditionals when the subject of the main clause is neither the speaker nor hearer and the main clause contains one of epistemic, evidential, or teleological modality types. It is noteworthy that most of these cases (n = 52) contain an epistemic marker, and this suggests that the epistemic marker is a prototypical modality marker in this environment as in (9):

[2] Note that we annotated such cases without a specific proposition in the apodosis as none for mc_MOD to distinguish them from cases with specific state of affairs in their apodosis. Its annotation (e.g., teleological) was recorded in sc_MOD.

(9) Koko-ni i-tara Alfred Lion-da-tte kuru-kamoshirenai.
here-DAT stay-TARA Alfred Lion-COP-TE come-EPS
If I stay here, Alfred Lion might come.'

This type of conditionals is distinct from the cases with unmarked modality as we see in Node 7 in that most of them contain a modal marker in the sentence. Contrasting choice of BA and TARA conditionals can be attributed to whether it contains a modal marker in the sentence. Because an epistemic marker expresses the speaker's judgment about a specific state of affairs, it goes along with the view that TARA conditionals involve specific spatiotemporal settings in mind.

The foregoing discussion supports the view that BA conditionals are a type of individual-level predicate and TARA conditionals as a type of stage-level predicate. It also revealed the features associated with such description. That an imperative mood often comes with the choice of TARA conditionals is as expected from the constraints on BA conditionals. The fact that an interrogative mood also leads to the choice of TARA conditionals suggests that it plays a role in expressing interpersonal speech acts in usage-events as we see in Node 6. We saw that a main clause that contains the speaker or hearer in a declarative mood also leads the speaker to the choice of TARA conditionals. We can regard it as a manifestation of the interactive function of TARA conditionals.

The second feature, which leads the speaker to the choice of the type of conditional, is whether the apodosis contains a modal marker. We have seen that BA conditionals are preferred when the predicate of the main clause contains no modal marker with declarative mood and certain types of main clause subject. It suggests the speaker's lack of involvement in judging the factuality of the state of affairs expressed in the sentence. On the contrary, it is often the case that TARA conditionals prototypically contain a modal marker as we see in Node 4, which suggests the speaker's involvement in judging the factuality of the event expressed in the sentence. We also saw that the negative polarity in the main clause is associated with the expression of the necessity of the action expressed in the subordinate clause. In such an environment, BA conditionals are likely to be preferred

in such a context and we saw its semantic connection with BA conditionals without a modal marker.

6. Conclusion

This paper discussed the factors that motivate the choice of BA and TARA conditionals in modern Japanese and argued that BA conditionals prototypically express a generic causal meaning and that TARA conditionals are conditional relation-specific with respect to their spatiotemporal settings as discussed in previous studies. With the conditional inference tree analysis, we uncovered features typically associated with each type of conditional and how they contribute to the function of BA and TARA conditionals.

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